Mr. Mike Whited
Stonestreet & Stonestreet Oil Company
P. O. Box 114
Montpelier, Indiana 47359

Re: Registered Construction and Operation Status,
151-16597-00058

Dear Mr. Whited:

The application from Stonestreet & Stonestreet Oil Company, received on September 20, 2002, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.1, it has been determined that the following soil and water remediation system to be located at 6065 North State Rd. 327, Orland, Indiana, is classified as registered:

(a) Soil vapor extraction (SVE) and air sparging system, which includes five (5) sparging wells, and ten (10) vapor extraction wells. The soil vapor extraction system is capable of extracting air at a total rate of 80 cubic feet per minute (cfm). The air sparging system will be used to pump compressed air into the ground (saturated zone) at a total rate of 900 cubic feet per minute (cfm). One (1) 2.9 million British thermal units per hour (mmBtu/hr) propane-fired Thermal Oxidizer, identified as TO1 to control the VOC emissions.

The following conditions shall be applicable:

1. The soil vapor extraction and air sparging system has a potential VOC emissions of less than 25 tons per year. Therefore, 326 IAC 8-1-6 (General Reduction Requirements) is not applicable. However, any change or modification which may increase potential VOC emissions to 25 tons per year or more shall be subject to 326 IAC 8-1-6, and must be approved by the Office of Air Quality before such change may occur.

2. Any change or modification which may increase the single HAP potential to emit (PTE) to 10 tons per year or greater or combined HAPs to 25 tons per year or greater must be approved by the Office of Air Quality before such change may occur.

This registration is the first air approval issued to this source. The source may operate according to 326 IAC 2-5.1.

An authorized individual shall provide an annual notice to the Office of Air Quality that the source is in operation and in compliance with this registration pursuant to 326 IAC 2-5.1-2(f)(3). The annual notice shall be submitted to:

Compliance Data Section
Office of Air Quality
100 North Senate Avenue
P.O. Box 6015
Indianapolis, IN 46206-6015

no later than March 1 of each year, with the annual notice being submitted in the format

attached.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Original signed by Paul Dubenetzky
Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

APD

cc: File - Steuben County
Steuben County Health Department
Air Compliance - Doyle Houser
Northern Regional Office
Permit Tracking
Technical Support and Modeling - Michele Boner
Compliance Data Section - Karen Nowak

# Registration
# Annual Notification

This form should be used to comply with the notification requirements under 326 IAC 2-5.1-2(f)(3)

| | |
|---|---|
| **Company Name:** | **Stonestreet & Stonestreet Oil Company** |
| **Address:** | **6065 North State Road 327** |
| **City:** | **Orland** |
| **Authorized individual:** | **Mike Whited** |
| **Phone #:** | **(765) 728-8051** |
| **Registration #:** | **151-16597-00058** |

I hereby certify that **Stonestreet & Stonestreet Oil Company** is still in operation and is in compliance with the requirements of Registration **151-16597-00058**.

| |
|---|
| **Name (typed):** |
| **Title:** |
| **Signature:** |
| **Date:** |

# Indiana Department of Environmental Management
# Office of Air Quality

## Technical Support Document (TSD) for a Registration

**Source Background and Description**

| | |
|---|---|
| Source Name: | Stonestreet & Stonestreet Oil Company |
| Source Location: | 6065 North State Road 327, Orland, Indiana |
| County: | Steuben |
| SIC Code: | 2999 |
| Registration: | 151-16597-00058 |
| Permit Reviewer: | Aida De Guzman |

The Office of Air Quality (OAQ) has reviewed an application from Stonestreet & Stonestreet Oil Company relating to the construction and operation of the following:

(a) Soil vapor extraction (SVE) and air sparging system, which includes five (5) sparging wells, and ten (10) vapor extraction wells. The soil vapor extraction system is capable of extracting air at a total rate of 80 cubic feet per minute (cfm). The air sparging system will be used to pump compressed air into the ground (saturated zone) at a total rate of 900 cubic feet per minute (cfm). One (1) 2.9 million British thermal units per hour (mmBtu/hr) propane-fired Thermal Oxidizer, identified as TO1 to control the VOC emissions.

**Recommendation**

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on September 20, 2002, with additional information received on September 30, 2002; October 18, 2002 and October 21, 2002.

**Emission Calculations**

(a) Air Spurging and Soil Vapor Extraction System:
Soil vapor extraction system removes volatile organic compounds (VOCs) and some semi-volatile organic compounds (SVOCs) from soil beneath the ground surface in the unsaturated zone (part of the subsurface located above the water table). By applying a vacuum through a system of underground wells, contaminants are pulled to the surface as vapor or gas. Air sparging system which includes air injection wells are installed to remove contaminants in the saturated zone of the subsurface (water-soaked soil that

lies below the water table).

The emissions were calculated based on air samples. The concentration listed below are at the peak when remediation will start. These concentrations will decline as the remediation process continues.

| HAP | VOC/HAP Concentration (Fg/liter) | Flow Velocity (feet/minute) | Flow Rate (cfm) | Annual VOC/HAP Emission Rate (tons/year) |
|---|---|---|---|---|
| Benzene | 3,100 | 3,670 | 80 | 4.07 |
| Toluene | 3,400 | 3,670 | 80 | 4.5 |
| Ethylbenzene | 300 | 3,670 | 80 | 0.40 |
| Xylene | 1,480 | 3,670 | 80 | 1.94 |
| TOTAL UNCONTROLLED EMISSIONS | | | | 10.9 |
| TOTAL CONTROLLED EMISSIONS | | | | 0.327 |

Note: The vapor extraction system is controlled by a thermal oxidizer with an overall efficiency of 97% (100% capture and 97% destruction efficiencies)
Methodology:
VOC/HAP Emissions = concentration, Fg/liter * lb/453,592,400 Fg * ton/2000 lb * 28.32 liters/cu ft * flow rate, cfm * 60 min/hr * 8760 hrs/yr

**Potential To Emit**

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

| Pollutant | Potential To Emit (tons/year) |
|---|---|
| PM | 0.1 |
| PM-10 | 0.1 |
| $SO_2$ | 0.0 |
| VOC | 11.0 |
| CO | 0.4 |
| $NO_x$ | 2.6 |

| HAP’s | Potential To Emit (tons/year) |
|---|---|
| Benzene | 4.07 |
| Toluene | 4.5 |
| Ethylbenzene | 0.40 |
| Xylene | 1.94 |
| TOTAL | 10.9 |

**Justification for the Level of Approval**

(a) This proposed source will be registered, pursuant to 326 IAC 2-5.1, because the potential to emit (as defined in 326 IAC 2-7-1(29)) of volatile organic compounds (VOC) are greater than 10 tons per year but less than 25 tons per year.

**County Attainment Status**

The source is located in Steuben County.

| Pollutant | Status |
|---|---|
| PM-10 | Attainment |
| $SO_2$ | Attainment |
| $NO_2$ | Attainment |
| Ozone | Attainment |
| CO | Attainment |
| Lead | not determined |

(a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Steuben County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) Steuben County has been classified as attainment or unclassifiable for all the other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

**Source Status**

New Source PSD Definition (emissions after controls, based on 8760 hours of operation per year at rated capacity and/or as otherwise limited):

| Pollutant | TOTAL Emissions (tons/yr) |
|---|---|
| PM | 0.1 |
| PM10 | 0.1 |
| $SO_2$ | 0.0 |
| VOC | 0.427 |
| CO | 0.4 |
| $NO_x$ | 2.6 |
| Single HAP | 0.135 |
| Combination HAPs | 0.327 |

(a) This new source is **not** a major stationary source because no attainment pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2 and 40 CFR 52.21, the PSD requirements do not apply.

**Part 70 Permit Determination**

326 IAC 2-7 (Part 70 Permit Program)
This new source is **not** subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

(a) each criteria pollutant is less than 100 tons per year,
(b) a single hazardous air pollutant (HAP) is less than 10 tons per year, or
(c) any combination of HAPs is less than 25 tons/year.

This is the first air approval issued to the source.

**Federal Rule Applicability**

(a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.

(b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this source.

**State Rule Applicability**

(a) 326 IAC 2-6 (Emission Reporting)
This source is **not** subject to 326 IAC 2-6, because it is not located in one of the counties listed in the rule although it emits greater than 10 tons of VOC per year: and its potential to emit VOC is less than 100 tons per year.

(b) 326 IAC 8 (Volatile Organic Sources)
There are no provisions under Article 8 that will apply to this soil vapor extraction source, because it does not fit to any of the source categories in the rule.

(c) 326 IAC 8-1-6 (General Reduction Requirements)
This rule applies to new facility as of January 1, 1980 which have potential VOC emission of 25 tons per year. The soil vapor extraction source is **not** subject to this rule because its VOC potential emission is less than 25 tons per year.

(d) 326 IAC 2-4.1-1 (New Source Toxics Control)
This rule applies to sources who construct or reconstructs a major source of hazardous air pollutants after July 27, 1997. This rule is **not** applicable to this source, because it is not major for hazardous air pollutants (HAPs).

**Conclusion**

The construction and operation of this soil vapor extraction source shall be subject to the conditions of the attached **Registration 151-16597-00058.**

**Appendix A: Emission Calculations**
**LPG-Propane - Industrial Boilers**
**(Heat input capacity: > 10 MMBtu/hr and < 100 MMBtu/hr)**

**Company Name:** Stonestreet & Stonestreet Oil Company
**Address City IN Zip:** 6065 North State Rd. 327, Orland, IN
**Registration No.:** 151-16597
**Plt ID:** 151-00058
**Reviewer:** Aida De Guzman
**Date Application Received:** Sept. 20, 2002

| Heat Input Capacity MMBtu/hr | Potential Throughput kgals/year | SO2 Emission factor = 0.10 x S |
|---|---|---|
| | | S = Sulfur Content = 0.00 grains/100ft^3 |
| 2.90 | 277.64 | Note: The MSDS shows no sulfur content for the propane. |
| 2.9 mmBtu/hr thermal oxidizer | | |

| | Pollutant | | | | | |
|---|---|---|---|---|---|---|
| | PM* | PM10* | SO2 | NOx | VOC | CO |
| Emission Factor in lb/kgal | 0.6 | 0.6 | 0.0 *(0.10S)* | 19.0 | 0.5 **TOC value | 3.2 |
| Potential Emission in tons/yr | 0.1 | 0.1 | 0.0 | 2.6 | 0.1 | 0.4 |

*PM emission factor is filterable PM only. PM10 emission factor is assumed to be the same as PM based on a footnote in Table 1.5-1, therefore PM10 is filterable only as well.
**The VOC value given is TOC. The methane emission factor is 0.2 lb/kgal.

**Methodology**

1 gallon of LPG has a heating value of 94,000 Btu
1 gallon of propane has a heating value of 91,500 Btu (use this to convert emission factors to an energy basis for propane)
(Source - AP-42 (Supplement B 10/96) page 1.5-1)
Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.0915 MMBt

Emission Factors are from AP42 (Supplement B 10/96), Table 1.5-1 (SCC #1-02-010-02)

Emission (tons/yr) = Throughput (kgals/yr) x Emission Factor (lb/kgal) / 2,000 lb/ton
Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).